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ABSTRACT

Developed as part of a research program directed at obtaining reliable persuasive effects, the two sets of persuasive messages provided in this report--consumer messages and sociopolitical messages--discuss fictitious brands of consumer products and various sociopolitical issues. The consumer messages were developed for the following 12 products: automobiles, cereals, electric fans, electronic calculators, furniture polish, house paint, movie cameras, portable electric heaters, portable radios, screwdrivers, television sets, and 10-speed bikes. Each message presents a brand name, a paragraph about product attributes, and brand evaluations. The 72 attribute paragraphs (6 per product) are based on articles that appeared in "Consumer Reports." The brand evaluations consist of one or two sentences that assign a value of either poor, below average, average, above average, or excellent to a brand on one of the product attributes. The 20 sociopolitical messages consist of arguments in support of one side of an issue along with cues that attribute the message to either a trustworthy or an untrustworthy source. Each message has a sociopolitical question as a title, and the body of the message consists of two paragraphs. The persuasive messages, which constitute the body of the document, are presented as apprendixes to the brief explanatory report. References are included. (HOD)

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Consumer-Product and Socio-Political Messages for Use in Studies of Persuasion

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"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
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Abstract

The purpose of this report is to make available two sets of persuasive messages that discuss fictitious brands of consumer products and various socio-political issues. Each consumer message presents a brand name, a paragraph describing an attribute of a consumer product, and a one or two sentence evaluation of the brand on that attribute. Each socio-political communication consists of arguments in support of one side of an issue along with cues that attribute the message to either a trustworthy or untrustworthy source. These two sets of communications have been developed as part of a research program directed at obtaining reliable persuasion effects.

Consumer-Product and Socio-Political Messages for Use in Studies of Persuasion

Previous persuasion research has produced very few replicable persuasion effects (less than 10 according to Ronis et al., 1977). The common research practice of using one or a few messages with unknown characteristics can frequently result in idiosyncratic and unreliable persuasion effects. (For example, an interaction of an experimental treatment with message characteristics can be disguised as a main effect.) Often, the most important ingredient in persuasion research -- the persuasive communication -- is not readily available to other researchers. The purpose of this article is to make available two sets of persuasive communications -- a set of messages concerning 12 categories of consumer products and a set of messages on 20 socio-political issues. Each set of messages consists of multiple communications drawn from a population with known characteristics.

Consumer Product Messages

Message Materials

Message materials have been developed for these 12 products: automobiles, cereal, electric fans, electronic calculators, furniture polish, house paint, movie cameras, portable electric heaters, portable radios, screwdrivers, television sets, and 10-speed bikes. The materials consist of three parts: (1) brand names, (2) paragraphs about product attributes and (3) brand evaluations.

Brand names. There are two sets of 72 brand names (both given in Appendix A). Set 1 consists of the 72 most common six-letter surnames in the United States (U.S. Social Security, 1964). Set 2 consists of 12 groups of

six surnames, all beginning with the same letter. Each of these groups of six names can be assigned to a product category such that brand names within a product category will begin with the same letter of the alphabet (thus, reducing associative interference between product categories, while increasing interference within each product category).

Attribute paragraphs. The 72 product attribute paragraphs (six per product) are based on articles appearing in the magazine Consumer Reports (and are given in Appendix B). These paragraphs provide information about characteristics that should vary among different brands of the same product.

Brand evaluations. The brand evaluations (also given in Appendix B) each consist of one or two sentences that assign a value of either poor, below average, average, above average, or excellent to a brand on one of the product attributes.

Construction of Consumer Messages

The materials provided here can be used to construct 360 distinct communications units (12 product categories X 6 attributes per product X 5 levels of evaluation per unit). Because up to 6 units can be used together to describe any specific brand, there are potentially 66 (= 46,565) different compound messages available for each of the 12 product categories.

A persuasive communication is constructed by selecting a brand name and a product category to serve as a title (e.g., Howard Automobiles or Easton Electronic Calculators). The body of the message consists of one or more of the six attribute paragraphs for the selected product category, each accompanied by concluding evaluative sentences that mentions the brand name. For example, a simple (one attribute) message for providing a poor evaluation of Foster Furniture Polish:

Foster Furniture Polish

The ease of getting polish out of the container and onto the furniture, spreading the polish, and rubbing it in is important to consider when buying a furniture polish. Added inconveniences for some brands are the necessities of wearing gloves or using a special cloth for polishing.

Foster Furniture Polish is poor in ease of application, so that polishing chores are usually time consuming and burdensome.

Another example, a compound (multi-attribute) message for Becker Portable Electric Heaters:

Becker Portable Electric Heaters

Under certain circumstances -- when you dress in a chilly bedroom on a frosty morning or stay up to watch a late movie on TV -- you might want to concentrate heat. The ability of portable electric heaters to "spot" heat varies widely from brand to brand. Generally, those heaters that spot heat well are more versatile.

Becker Portable Electric Heaters have below average ability to spot heat, giving them little versatility in use.

Your comfort depends in large part on how evenly heat is distributed in a room. Unless "vertical" warmth is uniform, you might have pleasantly warm hands and unpleasantly cold feet. "Horizontal" or wall-to-wall warmth should be uniform, too, so that you can move about comfortably in an evenly heated room.

Becker Portable Electric Heaters are excellent in the evenness of their heat distribution, providing very good comfort.

Brand Rating Dependent Variable

Brand ratings are created by adding a brand name to the 4-word stem, "How would you rate . . .?" and accompanying this question with a suitable rating scale. For example:

How would you rate Conley Cereal?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	poor		below average			average			above average			excellent		

Use of Consumer Messages in Published Studies

Messages constructed from the consumer materials have been used in 11 studies published in Baumgardner, Ronis, Leippe, and Greenwald (1983), Leippe, Greenwald and Baumgardner (1982), Pratkanis and Greenwald, (under review), Pratkanis, Greenwald, Leippe, and Baumgardner (under review), and Ronis (1980). These studies have used computerized procedures (see Ronis et al., 1977) to supervise presentation of 50 or so different messages within a single 1-hour experimental session. In such message-dense presentations, the consumer messages have been observed to produce strong, immediate persuasion effects. However, these effects dissipate quickly -- typically within minutes. In these studies, message effects have been shown to be sensitive to manipulations of source credibility (attributing the message to the high credible source, Consumer Reports or the low credible source, the manufacturer

[Pratkanis et al., under review]) and to interactions of measurement delay with level of recipient involvement (Pratkanis & Greenwald, under review), message similarity (Baumgardner et al., 1983), repetition of opposing arguments (Ronis, 1980), and the evaluative nature of the message context (Leippe et al., 1982).

Socio-Political Messages

Persuasive Materials

The socio-political issues concern alternative courses of (usually) collective action. They can typically be stated as questions with auxiliary verbs such as "should" (e.g. "Should flourides be put in public water supplies?"). The persuasive messages consist of arguments advocating one side of a socio-political issue (and are presented in Appendix C).

Persuasive messages. Each message begins with a socio-political question as a title (e.g. "Is advertising good for society?"). The body of the message consists of two paragraphs (averaging about 75 words each). Each sentence of the message presents an argument in support of one side of an issue. The last sentence summarizes the message conclusion.

Source cues. Each message has its own pair of source cues (averaging about 30 words each in length). These discounting and accepting cues attribute the message to an untrustworthy and a trustworthy source, respectively. The last sentence of the cue repeats the conclusion of the message. The source cues can be used to induce subjects to either discount or accept the arguments of the message. [Note: for the cues presented in Appendix C, source identifying phrases have been replaced with their generic equivalents to protect the anonymity of sources].

Opinion Measure Dependent Variable

Opinion measures request subjects to answer the question posed in the message title. Answers can be given on an agreement scale anchored by the labels "certainly no" and "certainly yes." For example,

Should phosphate containing detergents be permitted for household use?

1	2	3	4	5	6	7	8	9
certainly no, phosphates should not be permitted in detergents				uncertain				certainly yes, phosphates should be permitted in detergents

Socio-Political Message Development and Usage

The twenty messages in Appendix C were developed by first assembling an initial pool of 315 socio-political issues from a wide variety of sources. A subset of 20 issues were selected using the criteria that pretest subjects had little specific knowledge about the topic and possessed at least a moderate interest in the issue. A set of 20 pairs of messages (one arguing each side of an issue) were then constructed. After use in over a dozen persuasion experiments, five messages were deleted because they did not produce consistent persuasion. The remaining messages were revised and edited. Additional messages were constructed from a variety of sources including communications developed by other persuasion researchers, including McGuire's (1962) message opposing toothbrushing, Gruder et al.'s (1978) message against the 4-day work week, and Eagly's (1974) message advocating that individuals spend less time sleeping.

The final set of socio-political messages has been used in four additional studies that investigated the sleeper effect in persuasion (see Pratkanis, Greenwald, Leippe, & Baumgardner, under review for details). In these studies, subjects viewed each message presented on a computer-controlled video display. After reading the message, subjects wrote down the one argument they considered best in each message. Next they received either no cue or a discounting or accepting cue which they rated on a 9-point scale (with 1 = untrustworthy and 9 = trustworthy). At varying measurement delays, opinions were assessed on 9-point scales similar to the one given above. All 20 messages produced at least a half a scale unit of opinion change that tended to persist through the experimental session. Appendix C provides the mean pretest and posttest opinions (combined from four studies) for each topic such that a higher score represents more agreement with the message (pretest n = 30, posttest n = 102, with the exception of the fluoridation message which was used in only one study, pretest n = 6, posttest n = 22). Appendix C also provides the mean trustworthiness rating (combined from three studies) for the discounting and accepting cues used with each topic (discounting cue n = 40, accepting cue n x = 21 with the exception of the fluoridation issue which is based on n = 10 and n = 6 for discounting and accepting cues respectively).

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Appendix A:

Two Sets of Brand Names

Set 1: 72 most common six-letter surnames

Arnold	Atkins	Austin	Bailey	Barnes	Barnet
Becker	Bishop	Bowman	Brooks	Bryant	Burton
Butler	Carter	Cooper	Curtis	Davids	Duncan
Edward	Fisher	Foster	Fowler	Garcia	Gibson
Gordon	Graham	Greene	Hansen	Harper	Harvey
Holmes	Howard	Howell	Hudson	Hughes	Hunter
Jensen	Jordan	Keller	Kelley	Knight	Larson
Lawson	Little	Malone	Morgan	Miller	Murphy
Murray	Nelson	Newman	Oliver	Palmer	Parker
Pierce	Porter	Powell	Rivera	Rogers	Snyder
Taylor	Thomas	Torres	Tucker	Turner	Wagner
Walker	Warren	Watson	Weaver	Willis	Wilson

Set 2: Same first-letter brand names

Used with Automobiles:

Abbott	Abrams	Arnold	Atkins	Atwood	Austin

Used with Cereal:

Carter	Carver	Clarke	Conley	Cooper	Curtis

Used with Electric Fans:

Lanier	Larson	Laymen	Lester	Linden	Little

Used with Electronic Calculators:

Easton	Edward	Elders	Elkins	Elliot	Emmons

Used with Furniture Polish:

Fields	Finley	Fisher	Foster	Fowler	Fulton

Used with House Paint:

Palmer	Parker	Peters	Pierce	Porter	Powell

Used with Movie Cameras:

Malone	Martin	Miller	Morgan	Murphy	Murray

Used with Portable Electric Heaters:

Hansen	Harper	Holmes	Howard	Hudson	Hughes

Used with Portable Radios:

Ramsey	Redman	Reeves	Rivera	Rogers	Rooney

Used with Screwdrivers:

Sawyer	Sexton	Sheets	Snyder	Spence	Sutton

Used with Televisions:

Tanner	Taylor	Thomas	Torres	Tucker	Turner

Used with 10-speed bikes:

Bailey	Barnet	Bishop	Bowman	Brooks	Butler

Appendix B:

Attribute Paragraphs and Brand Evaluative Sentences

Automobiles: Brakes

If a car has good brakes, it will have a short stopping distance. This stopping ability should be maintained when the car is braked repeatedly and the brakes should work in panic stops when the brakes are slammed on while the car is moving at highway speeds. Good brakes are obviously important for safety.

Brand name Automobiles have poor brakes with long stopping distances and low reliability.

Brand name Automobiles have below average brakes with longer stopping distances and lower reliability than most brakes.

Brand name Automobiles have average quality brakes.

Brand name Automobiles have above average brakes with shorter stopping distances and higher reliability than most brakes.

Brand name Automobiles have excellent brakes with short stopping distances and high reliability, which contribute to safety.

Automobiles: Bumpers

Federal safety standards specify the protection a car's bumpers must give to the engine and passenger compartments in a simulated five MPH crash. Good bumpers are lightweight and absorb the energy of the crash, thus protecting the car and passengers. Good bumpers are also inexpensive to repair when they are damaged.

Brand name Automobiles have poor bumpers which fail to meet federal standards and are expensive to repair.

Brand name Automobiles have below average bumpers which barely meet federal standards and are fairly expensive to repair.

Brand name Automobiles have average bumpers which meet federal standards.

Brand name Automobiles have above average bumpers which exceed federal standards and are fairly inexpensive to repair.

Brand name Automobiles have excellent bumpers which easily exceed federal standards and are inexpensive to repair.

Automobiles: Durability

Two factors that have a big effect on the cost of running a car are the lifetime of the car and the frequency of repairs. Car owners can minimize repairs and extend the lifetime by taking care of their cars, but the design of the automobile and the materials and workmanship that go into them have big effects on durability.

Brand name Automobiles are poor in durability. They require frequent repairs and have a short useful life.

Brand name Automobiles are below average in durability. They require more repairs and last somewhat shorter than most cars.

Brand name Automobiles are average in durability.

Brand name Automobiles are above average in durability. They require fewer repairs and last somewhat longer than most cars.

Brand name Automobiles are excellent in durability. They require very few repairs and have a long useful life.

Automobiles: Handling

"Handling" factors affect driver control of a car in ordinary use. These are steering effort, both in driving and parking, resistance to being pushed off course by wind or bumps, and free stability (the car's response when the steering wheel is turned quickly and released).

Brand name Automobiles have poor handling characteristics.

Brand name Automobiles have below average handling characteristics.

Brand name Automobiles have average handling characteristics.

Brand name Automobiles have above average handling characteristics.

Brand name Automobiles have excellent handling characteristics.

Automobiles: Noise Level

The noise level inside a car depends on many things including the shape of the car, the quality of the suspension and the exhaust system, and of course, speed and the smoothness of the road. These noises affect more than comfort; a noisy car contributes to driver fatigue and ability to notice or respond to unsafe conditions.

Brand name Automobiles are poor in quietness. This distracts substantially from comfort and safety.

Brand name Automobiles are below average in quietness. This distracts from comfort and safety.

Brand name Automobiles are average in quietness.

Brand name Automobiles are above average in quietness. This contributes to comfort and safety.

Brand name Automobiles are excellent in quietness. This contributes substantially to comfort and safety.

Automobiles: Safety

Three important safety factors for any car are (a) the convenience and effectiveness of its restraint system, (b) the ease of operating its control and (c) the likelihood that its gas tank would be ruptured in a crash. These affect either the chance of having a collision or of being injured when a collision occurs.

Brand name Automobiles have poor restraint systems, controls, and gas tanks which detract substantially from safety.

Brand name Automobiles have below average restraint systems, controls, and gas tanks which detract somewhat from safety.

Brand name Automobiles have average restraint systems, controls, and gas tanks.

Brand name Automobiles have above average restraint systems, controls, and gas tanks which contribute moderately to safety.

Brand name Automobiles have excellent restraint systems, controls, and gas tanks, all of which contribute to safety.

Cereal: Calorie Content

Since grains are very low in fat, one would expect to find a low level of fat in breakfast cereals, but one often finds a high level because fat has been added by the manufacturer. As a result, some cereals contain up to fifteen percent fat. This makes them unnecessarily high in calories.

Brand name Cereal has a poor (low) proportion of non-fat ingredients, a serious nutritional fault.

Brand name Cereal has a below average proportion of non-fat ingredients. This detracts somewhat from nutrition.

Brand name Cereal is average in its proportion of non-fat ingredients.

Brand name Cereal has an above average proportion of non-fat ingredients. This contributes moderately to nutrition.

Brand name Cereal has an excellent (high) proportion of non-fat ingredients. This contributes substantially to nutrition.

Cereal: Economy

The prices of some cereals have risen by thirty-five percent during the last two years, whereas others have remained almost constant. The cost per serving of some cereals are double those of competing brands. These differences grow more and more important as the cost of living rises.

Brand name Cereal is poor in economy. It is one of the most expensive cereals on a cost per serving basis.

Brand name Cereal is below average in economy. It is more expensive than most cereals on a cost per serving basis.

Brand name Cereal is average in economy. It is neither exceptionally high or low on a cost per serving basis.

Brand name Cereal is above average in economy. It is less expensive than most cereals on a cost per serving basis.

Brand name Cereal is excellent in economy. It is one of the less expensive cereals on a cost per serving basis.

Cereal: Fiber

Natural cereal grains contain a desirably high level of fiber or "roughage." But, you often don't get it from cereals because fiber has been milled out by the manufacturer. Adequate amounts of fiber are essential for proper digestion, and a lack of fiber has been connected with intestinal cancer.

Brand name Cereal is a poor source of healthful natural fiber because the fiber has been removed by overprocessing.

Brand name Cereal is a below average source of healthful natural fiber because a substantial portion of it has been milled out.

Brand name Cereal is average as a source of healthful natural fiber because some fiber has been left in by the manufacturer.

Brand name Cereal is an above average source of healthful natural fiber because a good portion of it has been left in.

Brand name Cereal is a excellent source of healthful natural fiber because all of it has been left in by the manufacturer.

Cereal: Nutrition

A cereal can be stuffed with just about every nutrient and still be unable to support life. And consumers can read "nutritional" labels until they're blue in the face and still be unable to tell how nutritious a product is. This often happens because the cereal may provide unneeded nutrients and lack needed ones.

Brand name Cereal is poor in nutritional quality. It contains few needed and many unneeded nutrients.

Brand name Cereal is below average in nutritional quality. It contains fewer needed and more unneeded nutrients than most cereals.

Brand name Cereal is average in nutritional quality. It contains some needed and a few unneeded nutrients.

Brand name Cereal is above average in nutritional quality. It contains more needed and fewer unneeded nutrients than most cereals.

Brand name Cereal is excellent in nutritional quality. It contains many needed and few unneeded nutrients.

Cereal: Packaging

A great deal of creative effort goes into making packages seem larger than they actually are, or seem to hold more than they really do. Although this is not an open accusation that cereal-makers intentionally deceive the public, some boxes contain almost one-fourth air instead of cereal.

Brand name Cereal is poor in honesty of packaging. Its boxes have almost one-fourth of their volume filled with air.

Brand name Cereal is below average in honesty of packaging. Its boxes have almost one-fifth of their volume filled with air.

Brand name Cereal is average in honesty of packaging. Its boxes have about 18% of their volume filled with air.

Brand name Cereal is above average in honesty of packaging. Its boxes have about 15% of their volume filled with air.

Brand name Cereal is excellent in honesty of packaging. Its boxes have less than 10% of their volume filled with air.

Cereal: Sugar Content

By federal regulation, food ingredients must be listed in order of predominance. Sugar very often appears first in the list of ingredients on cereal boxes. Some cereal contain as much as forty percent sugar. Such cereals have a great cavity potential and contribute to the prevalence of obesity.

Brand name Cereal has a poor proportion of non-sugar ingredients, a serious nutritional fault.

Brand name Cereal has a below average proportion of non-sugar ingredients. This detracts somewhat from nutrition.

Brand name Cereal is average in its proportion of non-sugar ingredients.

Brand name Cereal has an above average proportion of non-sugar ingredients. This contributes moderately to nutrition.

Brand name Cereal has an excellent proportion of non-sugar ingredients. This contributes substantially to nutrition.

Electric Fans: Air Movement

Since the purpose of a fan is to move air, either within a room or in or out of it, the more air a fan forces through its blades each minute, the better is its performance. Performance ratings are determined by the velocity of both intake and exhaust air while a fan is in operation.

Brand name Electric Fans are poor in air movement, providing very low velocity in intake and exhaust performance.

Brand name Electric Fans are below average in air movement, providing somewhat low velocity in intake and exhaust performance.

Brand name Electric Fans are average in air movement, providing fair velocity in both intake and exhaust performance.

Brand name Electric Fans are above average in air movement, providing moderate velocity in intake and exhaust performance.

Brand name Electric Fans are excellent in air movement, providing strong velocity in both intake and exhaust performance.

Electric Fans: Child Protection

Any high-speed fan obviously presents a safety hazard and must be adequately shielded. But grills cannot be so closely spaced as to keep small children's fingers entirely out. So leading edge of the blade should be recessed well back from the grill where it is not accessible to children's probing fingers.

Brand name Electric Fans have poor blade placement -- dangerously close to the grill and easily within reach of a child's finger.

Brand name Electric Fans have below average blade placement -- close to the grill and possibly within reach of a child's finger.

Brand name Electric Fans are average in safety of the blade placement.

Brand name Electric Fans have above average blade placement -- recessed from the grill and difficult for a child's finger to reach.

Brand name Electric Fans have excellent blade placement -- safely recessed from the grill and out of a child's finger's reach.

Electric Fans: Efficiency

The less power a fan uses to move a given quantity of air, the more efficient it is said to be (and the cheaper it is to operate). The efficiency of electric fans is usually expressed in the number of kilowatt hours of electricity required to bring the temperature of a room of a set size down by a specified number of degrees.

Brand name Electric Fans are poor in efficiency. They require unusually large amounts of power to cool a room.

Brand name Electric Fans are below average in efficiency. They require relatively much power to cool a room.

Brand name Electric Fans are average in efficiency. They require moderately large amounts of power to cool a room.

Brand name Electric Fans are above average in efficiency. They require only moderate power to cool a room.

Brand name Electric Fans are excellent in efficiency. They require relatively little power to cool a room.

Electric Fans: Noise Level

A fan that is noisy can be very annoying. And there are very noticeable differences in the noise levels produced by different fans. Some produce only a quiet steady hum. Others hum loudly and sometimes make rattling or "moaning" sounds. One should listen to a fan at various speed settings before making a purchase.

Brand name Electric Fans are poor in quietness of operation at all speed settings.

Brand name Electric Fans are below average in quietness of operation at all speed settings.

Brand name Electric Fans are average in quietness of operation at all speed settings.

Brand name Electric Fans are above average in quietness of operation at all speed settings.

Brand name Electric Fans are excellent in quietness of operation at all speed settings.

Electric Fans: Safety

It would be easy to accidentally touch the back motor windings of many commercially available fans. The windings have enamel coatings which would prevent shocks, but the coatings are easily damaged, exposing small areas of the windings. Anyone touching such an exposed section might receive a shock.

Brand name Electric Fans are poor in placement of windings. The windings can be touched accidentally -- a dangerous hazard.

Brand name Electric Fans are below average in placement of windings. The windings might be touched accidentally.

Brand name Electric Fans are average in placement of windings. The windings are somewhat difficult to touch accidentally.

Brand name Electric Fans are above average in placement of windings. The windings are unlikely to be touched accidentally.

Brand name Electric Fans are excellent in placement of windings. The windings cannot be touched accidentally -- a safety feature.

Electric Fans: Speed Control

Most fans have rotating speed controls with detents at each speed setting. These should be carefully marked and easy to turn and stop at any speed setting, even when the fan is placed in a window. The speeds should be arranged in a logical order, such as: off, low, medium, and high, to avoid confusion.

Brand name Electric Fans have poor speed controls that are not clearly marked and very difficult to operate.

Brand name Electric Fans have below average speed controls that are not clearly marked and somewhat difficult to operate.

Brand name Electric Fans have average speed controls that are fair in ease of operation.

Brand name Electric Fans have above average speed controls that are clearly marked and fairly easy to operate.

Brand name Electric Fans have excellent speed controls that are clearly marked and easy to operate.

Electronic Calculators: Accuracy

Variations in the pressure needed to depress the keys on electronic calculators can raise the user's probability of error. Pressures lower than four ounces tend to produce "double-keying" -- a one might come up as an 11. Pressures over ten ounces tend to produce missed entries when users work fast.

Brand name Calculators are poor in accuracy of entering numbers because they require an excessively high level of finger pressure.

Brand name Calculators are below average in accuracy of entering numbers because they require a somewhat high level of finger pressure.

Brand name Calculators are average in accuracy of entering numbers.

Brand name Calculators are above average in accuracy of entering numbers because they require a moderate to high level of finger pressure.

Brand name Calculators are excellent in accuracy of entering numbers because they require a moderate level of finger pressure.

Electronic Calculators: Brightness

If a calculator's display is not bright enough, its visibility will be washed out when the calculator is used in illuminated areas. Other things being equal, the brighter the display, the better. Brightness facilitates reading, cuts down eyestrain, and increases accuracy.

Brand name Calculators' displays have poor brightness. Their dim numbers are very difficult to read in brightly lit rooms.

Brand name Calculators' displays have below average brightness. Their dim numbers are difficult to read in brightly lit rooms.

Brand name Calculators' displays have average brightness. Their numbers are moderately readable in brightly lit rooms.

Brand name Calculators' displays have above average brightness. Their numbers are fairly easy to read in brightly lit rooms.

Brand name Calculators' displays have excellent brightness. Their bright numbers are easy to read even in brightly lit rooms.

Electronic Calculators: Durability

During its lifetime, the buttons of an electronic calculator may be tapped about 100,000 times. The calculator will be exposed to many changes in temperature, as the user carries it in and out of buildings when the weather is hot or cold. Occasionally the owner is likely to drop the calculator. Thus a calculator must be durable.

Brand name Calculators are poor in durability. They damage readily even in normal treatment.

Brand name Calculators are below average in durability. They tend to be damaged by moderately rough treatment.

Brand name Calculators are average in durability. They can withstand a small amount of rough treatment.

Brand name Calculators are above average in durability. They can withstand moderately rough treatment.

Brand name Calculators are excellent in durability. They can withstand rough treatment for many years.

Electronic Calculators: Legibility

The numbers on a calculator's display should be big enough to see at a handy working distance and shouldn't have annoying breaks, flickers or strange formations. Small digit size, large gaps between parts of the numbers and odd formats can affect the readability of a display.

Brand name Calculators are poor in legibility of their display digits because the digits are small and unnaturally shaped.

Brand name Calculators are below average in legibility of their display digits because the digits are unnaturally shaped.

Brand name Calculators are average in legibility of their display digits.

Brand name Calculators are above average in legibility of their display digits because they have large digits.

Brand name Calculators are excellent in legibility of their display digits because they have large, naturally-shaped digits.

Electronic Calculators: Special Keys

Some calculators skimp on the number of keys by making several keys perform two or three functions each. When key functions are doubled or tripled, a user must press an extra key to instruct the multi-function key which operation to perform. The user will almost surely forget to press the special key sooner or later.

Brand name Calculators are poor in accuracy of entering functions because they have many keys that perform two or three functions.

Brand name Calculators are below average in accuracy of entering functions because they have several multi-function keys.

Brand name Calculators are average in accuracy of entering functions.

Brand name Calculators are above average in accuracy of entering functions because they have very few multi-function keys.

Brand name Calculators are excellent in accuracy of entering functions because they have a separate key for each function.

Electronic Calculators: Typing Ease

Some calculators have keys that, like tiny doorbells, go unresistingly in as far as you push. Others have a better arrangement: Tactile or "click-stop" keys that let you feel and hear a click when you make an entry. Once you're used to such a calculator, you can touch-type your entries without taking your eyes from the figures.

Brand name Calculators are poor in ease of typing entries without looking because they have inferior no-click keys.

Brand name Calculators are below average in ease of typing entries without looking because they have no-click keys.

Brand name Calculators are average in ease of typing entries without looking.

Brand name Calculators are above average in ease of typing entries without looking because they have "click-stop" keys.

Brand name Calculators are excellent in ease of typing entries without looking because they have well made "click-stop" keys.

Furniture Polish: Application

The ease of getting polish out of the container and onto the furniture, spreading the polish, and rubbing it in is important to consider when buying a furniture polish. Added inconveniences for some brands are the necessities of wearing gloves or using a special cloth for polishing.

Brand name Furniture Polish is poor in ease of application, so that polishing chores are usually time consuming and burdensome.

Brand name Furniture Polish is below average in ease of application, making polishing chores somewhat time consuming and burdensome.

Brand name Furniture Polish is average in ease of application.

Brand name Furniture Polish is above average in ease of application, taking some of the burden out of polishing chores.

Brand name Furniture Polish is excellent in ease of application, allowing polishing chores to be done quickly and efficiently.

Furniture Polish: Discoloration

A good furniture polish should maintain the original color of a wood finish. It should not darken a light finish, lighten a dark finish, or give a yellowish cast to the wood. Thus, one should consider the ability of a particular furniture polish not to produce discernible discoloration before making a purchase.

Brand name Furniture Polish is poor in keeping the color of the original wood finish.

Brand name Furniture Polish is below average in keeping the color of the original wood finish.

Brand name Furniture Polish is average in keeping the color of the original wood finish.

Brand name Furniture Polish is above average in keeping the color of the original wood finish.

Brand name Furniture Polish is excellent in keeping the color of the original wood finish.

Furniture Polish: Economy

At least as important as the purchase price of a furniture polish is the amount of polish needed per use. A can of furniture polish may be a very inexpensive brand, but if polishing a piece of furniture requires a large amount of that particular polish to do the job, then that polish is not really economical.

Brand name Furniture Polish is poor in economic value as determined by its very high cost per use.

Brand name Furniture Polish is below average in economic value as determined by its higher than average cost per use.

Brand name Furniture Polish is average in economic value as determined by its cost per use.

Brand name Furniture Polish is above average in economic value as determined by its lower than average cost per use.

Brand name Furniture Polish is excellent in economic value as determined by its very low cost per use.

Furniture Polish: Finish Maintenance

Good furniture polishes are able to maintain the original level of gloss, whether the finish is of the gloss, satin (semi gloss) or matte (no gloss) type. Bad polishes may either put a gloss on matte or semi gloss finishes, or dull a high gloss. Either way, the polished finish does not match the original finish.

Brand name Furniture Polish is poor in maintaining furniture's original level of gloss.

Brand name Furniture Polish is below average in maintaining furniture's original level of gloss.

Brand name Furniture Polish is average in maintaining furniture's original level of gloss.

Brand name Furniture Polish is above average in maintaining furniture's original level of gloss.

Brand name Furniture Polish is excellent in maintaining furniture's original level of gloss.

Furniture Polish: Scratch-Hiding Ability

Although the deep kind of scratch that goes into or through the wood finish is far beyond the scope of a furniture polish, some may be able to fill very fine or shallow scratches, and thus hide them from view. Thus, "scratch-hiding ability" is one important factor to consider in evaluating a furniture polish.

Brand name Furniture Polish has poor scratch-hiding ability.

Brand name Furniture Polish has below average scratch-hiding ability.

Brand name Furniture Polish has average scratch-hiding ability.

Brand name Furniture Polish has above average scratch-hiding ability.

Brand name Furniture Polish has excellent scratch-hiding ability.

Furniture Polish: Stain Protection

A good furniture polish should be one that forms a coating to protect the wood's finish from typical household stains. If one should spill coffee, tea, soda, etc., on a polished wood surface, the actual wood should never be in direct contact with the spilled substance.

Brand name Furniture Polish is poor in protecting wood from stains. Nearly any liquid will penetrate the weak coating it forms.

Brand name Furniture Polish is below average in protecting wood from stains. Many liquids will penetrate the coating it forms.

Brand name Furniture Polish is average in protecting wood from stains. Some liquids will penetrate the coating it forms.

Brand name Furniture Polish is above average in protecting wood from stains. Most liquids will not penetrate the coating it forms.

Brand name Furniture Polish is excellent in protecting wood from stains. Hardly any liquids will penetrate the coating it forms.

House Paint: Application

There are considerable differences in application properties from one brand of paint to another. House paints differ, for example, in ease of brushing and in resistance to sagging (which refers to problems with the paint running down over trim areas and windows). A house paint that is easy to apply saves time and effort.

Brand name House Paint is poor in ease of application -- very difficult to brush on and prone to sagging.

Brand name House Paint is below average in ease of application -- relatively difficult to brush on and somewhat prone to sagging.

Brand name House Paint is average in ease of application.

Brand name House Paint is above average in ease of application -- relatively easy to brush on and adequately resistant to sagging.

Brand name House Paint is excellent in ease of application -- very easy to brush on and highly resistant to sagging.

House Paint: Color Fading

There are large differences in fading or other color changes in house paint. If a paint changes color, it will often do so unevenly, changing differently in areas that receive different degrees of exposure to sun and weather. Color change also means that, if you have to touch up, the touched-up area will not match the surrounding area.

Brand name House Paint is poor in its resistance to fading and other color changes.

Brand name House Paint is below average in its resistance to fading and other color changes.

Brand name House Paint is average in its resistance to fading and other color changes.

Brand name House Paint is above average in its resistance to fading and other color changes.

Brand name House Paint is excellent in its resistance to fading and other color changes.

House Paint: Dirt Resistance

Dark colored house paints tend to show dirt less than lighter ones and so earn better marks in resistance to dirt. Almost all dark paints look respectable for as long as they last, even in the dirtiest areas. However, a house paint's ability to resist dirt becomes a very important factor to consider when using lighter colors.

Brand name House Paint has poor resistance to dirt, which makes it very undesirable for those using lighter colors.

Brand name House Paint has below average resistance to dirt, which makes it somewhat undesirable for those using lighter colors.

Brand name House Paint has average resistance to dirt.

Brand name House Paint has above average resistance to dirt, which makes it fairly attractive to those using lighter colors.

Brand name House Paint has excellent resistance to dirt, which makes it highly attractive to those who use lighter colors.

House Paints: Hiding Ability

Generally speaking, dark colors cover better than light ones, and the closer in color a paint is to the old paint, the better it will hide the paint underneath. But there are striking differences in hiding ability among different brands of house paint. A house paint with good hiding ability will often save the expense of a second coat.

Brand name House Paint is poor in hiding ability and will cover almost no colors in one coat.

Brand name House Paint is below average in hiding ability and will cover only similar colors in one coat.

Brand name House Paint is average in hiding ability and will cover some colors in one coat.

Brand name House Paint is above average in hiding ability and will cover most colors in one coat.

Brand name House Paint is excellent in hiding ability and will cover nearly all colors in one coat.

House Paint: Leveling Ability

"Leveling" is a paint's ability to flow without leaving brush marks. Brush marks are probably not much of a drawback because they will not show from a distance. But the brushed-on film does have peaks and valleys which can collect dirt and become much more noticeable after exposure to the elements.

Brand name House Paint is poor in leveling ability, leaving brush marks that collect considerable amounts of dirt over time.

Brand name House Paint is below average in leveling ability, leaving brush marks that will collect dirt over time.

Brand name House Paint is average in leveling ability. It leaves occasional brush marks.

Brand name House Paint is above average in leveling ability, leaving insignificant brush marks that collect almost no dirt.

Brand name House Paint is excellent in leveling ability. It leaves virtually no brush marks and so will stay dirt-free over time.

House Paint: Mildew Resistance

Although the relative importance of a paint's mildew resistance depends on where you live, it is an attribute that should be considered when buying a house paint. In some damp areas it seems that you can almost watch the mildew grow. But even in dry climates mildew can present problems.

Brand name House Paint is poor in its ability to resist mildew.

Brand name House Paint is below average in its ability to resist mildew.

Brand name House Paint is average in its ability to resist mildew.

Brand name House Paint is above average in its ability to resist mildew.

Brand name House Paint is excellent in its ability to resist mildew.

Movie Cameras: Focusing

When the light level is low and the subject is close to a movie camera, you need to focus precisely on the subject to get a sharp image. One can measure the distance to the subject and set the lens for that distance, but more accurate focusing is achieved with a rangefinder that shows two overlapping images until focusing is correct.

Brand name Movie Cameras do not have rangefinders and have poor focusing precision and image sharpness.

Brand name Movie Cameras do not have rangefinders and have below average focusing precision and image sharpness.

Brand name Movie Cameras have rangefinders that allow average focusing precision and image sharpness.

Brand name Movie Cameras have rangefinders that allow above average focusing precision and image sharpness.

Brand name Movie Cameras have rangefinders that allow excellent focusing precision and image sharpness.

Movie Cameras: Framing Accuracy

Whether you are photographing a close-up or a panorama, the scene as you see it through the view finder must closely match the scene you are photographing. Framing mismatches might cut out a vital chunk of your subject or include something you thought outside the frame. You need an accurate view finder to achieve good composition.

Brand name Movie Cameras are poor in framing accuracy of the view finder.

Brand name Movie Cameras are below average in framing accuracy of the view finder.

Brand name Movie Cameras are average in framing accuracy of the view finder.

Brand name Movie Cameras are above average in framing accuracy of the view finder.

Brand name Movie Cameras are excellent in framing accuracy of the view finder.

Movie Cameras: Handling Convenience

In evaluating a movie camera convenience, one should test different brands of cameras by handling them as if one were actually making a movie. One should pay special attention to the weight and feel of the camera and to any distractions in using its controls. It should be easy to make movies without fighting the equipment.

Brand name Movie Cameras are poor in ease of handling and convenience of use.

Brand name Movie Cameras are below average in ease of handling and convenience of use.

Brand name Movie Cameras are average in ease of handling and convenience of use.

Brand name Movie Cameras are above average in ease of handling and convenience of use.

Brand name Movie Cameras are excellent in ease of handling and convenience of use.

Movie Cameras: Light Reflection

All movie cameras use an exposure control to select automatically the lens aperture appropriate to the light level of the scene and the sensitivity of film. For exposure controls to work accurately in most all lighting situations, meters should not be affected by light from outside the field of view.

Brand name Movie Cameras have light meters that are poor in rejecting light outside the field of vision.

Brand name Movie Cameras have light meters that are below average in rejecting light outside the field of vision.

Brand name Movie Cameras have light meters that are average in rejecting light outside the field of vision.

Brand name Movie Cameras have light meters that are above average in rejecting light outside the field of vision.

Brand name Movie Cameras have light meters that are excellent in rejecting light outside the field of vision.

Movie Cameras: Optical Quality

The most important component of optical quality in movie-making is sharpness (recording the transition between light and dark shades). Freedom from chromatic aberration (color fringes around the objects photographed against a contrasting background) and from flare (bothersome splotches of light) are also important components of optical quality.

Brand name Movie Cameras have lenses with poor optical quality.

Brand name Movie Cameras have lenses with below average optical quality.

Brand name Movie Cameras have lenses with average optical quality.

Brand name Movie Cameras have lenses with above average optical quality.

Brand name Movie Cameras have lenses with excellent optical quality.

Movie Cameras: Versatility

Still photographers have long known the pleasures of "available-light" photography -- the ability to make photographs in relatively dim light without the use of special light sources. This "low-light" capability for movie cameras is only found in models with maximum aperture lenses. These large lenses add great versatility to movie-making.

Brand name Movie Cameras have poor versatility. They have very small aperture lenses.

Brand name Movie Cameras have below average versatility. They have fairly small aperture lenses.

Brand name Movie Cameras have average versatility.

Brand name Movie Cameras have above average versatility. They have fairly large aperture lenses."

Brand name Movie Cameras have excellent versatility. They have very large aperture lenses.

Portable Electric Heaters: Burn Protection

In buying a portable electric heater, one should check for the likelihood of getting a painful burn from fleeting contact with heater surfaces. The hazard can be measured by a thermesthesiometer -- a device developed by the National Bureau of Standards to measure the actual pain-causing potential of hot surfaces.

Brand name Portable Electric Heaters provide poor protection from burns, since their surfaces get very hot in normal use.

Brand name Portable Electric Heaters provide below average protection from burns -- their surfaces can get hot enough to burn.

Brand name Portable Electric Heaters are average in providing protection from burns.

Brand name Portable Electric Heaters provide above average protection from burns -- their surfaces get only mildly hot.

Brand name Portable Electric Heaters provide excellent protection from burns -- their surfaces don't get hot.

Portable Electric Heaters: Heat Direction

Floor areas that are directly under and 6 to 12 inches in front of a portable electric heater may heat to the point at which wood, asphalt, vinyl, and vinyl-asbestos floor coverings might be damaged. Such potential damage is averted with portable electric heaters that direct heat up at an angle away from floor surfaces.

Brand name Portable Electric Heaters are poor in directing heat away from the floor and are likely to cause floor damage.

Brand name Portable Electric Heaters are below average in directing heat away from the floor and may possibly cause floor damage.

Brand name Portable Electric Heaters are average in their ability to direct heat away from the floor.

Brand name Portable Electric Heaters are above average in directing heat away from the floor to minimize floor damage.

Brand name Portable Electric Heaters are excellent in directing heat away from the floor and therefore cannot cause floor damage.

Portable Electric Heaters: Heat Distribution

Your comfort depends in large part on how evenly heat is distributed in a room. Unless "vertical" warmth is uniform, you might have pleasantly warm hands and unpleasantly cold feet. "Horizontal" or wall-to-wall warmth should be uniform, too, so that you can move about comfortably in an evenly heated room.

Brand name Portable Electric Heaters are poor in their heat distribution, leaving many cold spots in a room.

Brand name Portable Electric Heaters are below average in their heat distribution, causing uneven heating within a room.

Brand name Portable Electric Heaters are average in the evenness of their heat distribution.

Brand name Portable Electric Heaters are above average in the evenness of their heat distribution, providing good comfort.

Brand name Portable Electric Heaters are excellent in the evenness of their heat distribution, providing very good comfort.

Portable Electric Heaters: Noise Level

Almost all portable electric heaters make at least a moderate amount of noise. Some brands also click and pop as their metal parts expand (in heating) or contract (in cooling). Such noise, which at best may only annoy some people while at the worst disturb sleep or concentration, varies from brand to brand.

Brand name Portable Electric Heaters are poor in quietness during operation. They make noise that is often disturbing.

Brand name Portable Electric Heaters are below average in quietness during operation. They make noise that can be disturbing.

Brand name Portable Electric Heaters are average in quietness during operation.

Brand name Portable Electric Heaters are above average in quietness during operation. They make few disturbing noises.

Brand name Portable Electric Heaters are excellent in quietness during operation. They make virtually no disturbing noises.

Portable Electric Heaters: Thermostats

Most good heaters have a thermostat that cycles on and off to hold the room at a specific thermostat setting. But big swings in room temperature during the cycling process can make for discomfort as the room must get cold before heat turns on and very hot before the heat turns off.

Brand name Portable Electric Heaters are poor in maintaining temperature constancy.

Brand name Portable Electric Heaters are below average in maintaining temperature constancy.

Brand name Portable Electric Heaters are average in maintaining temperature constancy.

Brand name Portable Electric Heaters are above average in maintaining temperature constancy.

Brand name Portable Electric Heaters are excellent in maintaining temperature constancy.

Portable Electric Heaters: Versatility

Under certain circumstances -- when you dress in a chilly bedroom on a frosty morning or stay up to watch a late movie on TV -- you might want to concentrate heat. The ability of portable electric heaters to "spot" heat varies widely from brand to brand. Generally, those heaters that spot heat well are more versatile.

Brand name Portable Electric Heaters have poor ability to spot heat, which greatly limits their versatility.

Brand name Portable Electric Heaters have below average ability to spot heat, giving them little versatility in use.

Brand name Portable Electric Heaters have average ability to spot heat, giving them some versatility in use.

Brand name Portable Electric Heaters have above average ability to spot heat, giving them moderate versatility in use.

Brand name Portable Electric Heaters have excellent ability to spot heat, giving them great versatility in use.

Portable Radios: Intelligibility

Intelligibility is to the spoken word as tone quality is to music. Portable radios often serve to transmit the spoken word: news, sports events, etc. Radio speech may have to compete with cheering crowds and other incidental noise. Brand to brand variations in intelligibility are apparent when speech is accompanied by such noise.

Brand name Portable Radios are poor in intelligibility under noisy program conditions.

Brand name Portable Radios are below average in intelligibility under noisy program conditions.

Brand name Portable Radios are average in intelligibility under noisy program conditions.

Brand name Portable Radios are above average in intelligibility under noisy program conditions.

Brand name Portable Radios are excellent in intelligibility under noisy program conditions.

Portable Radios: Interference Rejection

FM image rejection is especially important to people living near an airport or along its glide path. A set with poor image rejection can pick up interference from aircraft. Other forms of interference from outside the broadcast band such as shore-based radio navigation stations, may intrude on listening.

Brand name Portable Radios are poor in their ability to reject interfering signals.

Brand name Portable Radios are below average in their ability to reject interfering signals.

Brand name Portable Radios are average in their ability to reject interfering signals.

Brand name Portable Radios are above average in their ability to reject interfering signals.

Brand name Portable Radios are excellent in their ability to reject interfering signals.

Portable Radios: Sensitivity

The characteristic of "sensitivity" is the ability of a radio to pick up weak or distant stations free from background noise. Sensitivity is of special importance in portable radios, since they will be required, in normal use, to receive the same stations from a variety of different distances.

Brand name Portable Radios have poor sensitivity to both AM and FM signals.

Brand name Portable Radios have below average sensitivity to both AM and FM signals.

Brand name Portable Radios have average sensitivity to both AM and FM signals.

Brand name Portable Radios have above average sensitivity to both AM and FM signals.

Brand name Portable Radios have excellent sensitivity to both AM and FM signals.

Portable Radios: Tonal Quality

Tone quality refers to the ability to reproduce music over a wide tonal range, from bass through treble. This, of course, contributes considerably to the enjoyment of radio listening. Although one can hardly expect to obtain concert hall realism from a portable radio, one should still look for good tonal quality.

Brand name Portable Radios have poor tone quality.

Brand name Portable Radios have below average tone quality.

Brand name Portable Radios have average tone quality.

Brand name Portable Radios have above average tone quality.

Brand name Portable Radios have excellent tone quality.

Portable Radios: Tuning

Tuning in portable radios depends on circuit design. Good circuitry lets a set pick up each station at a single point on the dial -- not at 3 neighboring points, as with some poorly designed radios. Automatic frequency control (AFC) is one design feature that keeps a radio station from detuning or drifting off station.

Brand name Portable Radios have poor tuning qualities -- they are difficult to tune and tend to drift off station very easily.

Brand name Portable Radios have below average tuning qualities -- they are rather hard to tune and tend to drift off station easily.

Brand name Portable Radios have average tuning qualities.

Brand name Portable Radios have above average tuning qualities -- they are fairly easy to tune and do not drift off station easily.

Brand name Portable Radios have excellent tuning qualities -- they are very easy to tune and will rarely drift off station.

Portable Radios: Tuning Selectivity

FM and AM selectivity refers to a radio's ability to receive a selected station without interference from others close to it on the dial. A high degree of selectivity is especially important in portable radios that have high sensitivity and so pick up many stations that are close on the dial.

Brand name Portable Radios have poor tuning sensitivity.

Brand name Portable Radios have below average tuning sensitivity.

Brand name Portable Radios have average tuning sensitivity.

Brand name Portable Radios have above average tuning sensitivity.

Brand name Portable Radios have excellent tuning sensitivity.

Screwdrivers: Impact Resistance

Since do-it-yourselfers may, in certain situations, bang a screwdriver with a hammer, the handle and shank should be reasonably resistant to impact at the handle end. Impact resistance can be measured objectively by dropping a weight onto the screwdriver (held in a vertical position), and then looking for handle and shank damage.

Brand name Screwdrivers have poor impact resistance. They cannot withstand even moderate impact without being damaged.

Brand name Screwdrivers have below average impact resistance. They cannot withstand high impact without moderate damage.

Brand name Screwdrivers have average impact resistance. They can withstand some impact without damage.

Brand name Screwdrivers have above average impact resistance. They can withstand fairly high impact with little damage.

Brand name Screwdrivers have excellent impact resistance. They can withstand very high impact without damage.

Screwdrivers: Plating

Plated blades on a screwdriver can be bad news. Such blades may be nice to look at, and they resist rusting, but plating can mask imperfections you'd otherwise spot. And plating often peels; the sharp peelings can give you a nasty cut. Unplated, polished blades are much better. Keeping them rust-free is a minor chore.

Brand name Screwdrivers have poor quality blade finishes. They have an inferior quality plated blade.

Brand name Screwdrivers have below average quality blade finishes. They have the less desirable plated blade.

Brand name Screwdrivers have average quality blade finishes.

Brand name Screwdrivers have above average quality blade finishes. They have moderate quality unplated, polished blades.

Brand name Screwdrivers have excellent quality blade finishes. They have a superior quality unplated, polished blade.

Screwdrivers: Tip Hardness

A screwdriver's useful life depends very much on the hardness of the tip. But tips that are harder than they need to be tend to snap off in use. Soft tips tend to deteriorate rapidly. A screwdriver should have a tip that falls in the proper range -- adequately hard without being undesirably brittle.

Brand name Screwdrivers are poor in tip hardness -- too soft, leading them to become useless quickly.

Brand name Screwdrivers are below average in tip hardness -- a little too hard, leading to a possibility of breaking.

Brand name Screwdrivers are average in tip hardness -- they are somewhat hard, giving fair durability.

Brand name Screwdrivers are above average in tip hardness -- they are fairly hard, giving moderate durability.

Brand name Screwdrivers are excellent in tip hardness -- they are moderately hard, giving great durability.

Screwdrivers: Tip Shape

Screwdriver tips should be square to the shank and even on all sides, with clean, sharp corners so that the tip will form a proper fit with the slot in a screw. Tips that don't meet these criteria will damage screw slots so that screws can't be easily removed with a screwdriver.

Brand name Screwdrivers have tips that are poor in squareness, evenness, and sharpness of corners.

Brand name Screwdrivers have tips that are below average in squareness, evenness, and sharpness of corners.

Brand name Screwdrivers have tips that are average in squareness, evenness, and sharpness of corners.

Brand name Screwdrivers have tips that are above average in squareness, evenness, and sharpness of corners.

Brand name Screwdrivers have tips that are excellent in squareness, evenness, and sharpness of corners.

Screwdrivers: Torque Resistance

Good screwdrivers must stand up well to twisting force or torque. Torque resistance can be measured by putting the screwdriver tip in a test slot (like a screw slot) and then twisting the handle at increasing force until the screwdriver tip becomes damaged to the point of becoming unusable.

Brand name Screwdrivers have poor torque resistance. They do not hold up well even under moderate torque pressure.

Brand name Screwdrivers have below average torque resistance. They do not hold up well under high torque pressure.

Brand name Screwdrivers have average torque resistance.

Brand name Screwdrivers have above average torque resistance. They hold up fairly well under high torque pressure.

Brand name Screwdrivers have excellent torque resistance. They hold up extremely well even under very high torque pressure.

Screwdrivers: Toughness

Under stress, screwdriver tips that have sufficient "toughness" should bend before breaking. It is possible to determine toughness by putting the screwdriver tip in a vise, then increasing the leverage applied to the handle. A good screwdriver will bend, but not break, under a severe stress.

Brand name Screwdrivers have poor toughness. They will break easily under stress.

Brand name Screwdrivers have below average toughness. They will sometimes break under stress.

Brand name Screwdrivers have average toughness.

Brand name Screwdrivers have above average toughness. They will bend a little before breaking under stress.

Brand name Screwdrivers have excellent toughness. They will always bend rather than break under stress.

Televisions: D-C Restoration

Good D-C restoration lets the screen darken proportionally as the TV camera pans from brightly lit dark scenes. With poor D-C restoration, the television screen fades to gray instead of darkening. Good D-C restoration also improves the impact of camera fades and special lighting effects.

Brand name Television sets are poor in D-C restoration and in accuracy of portraying lighting effects.

Brand name Television sets are below average in D-C restoration and in accuracy of portraying lighting effects.

Brand name Television sets are average in D-C restoration and in accuracy of portraying lighting effects.

Brand name Television sets are above average in D-C restoration and in accuracy of portraying lighting effects.

Brand name Television sets are excellent in D-C restoration and in accuracy of portraying lighting effects.

Televisions: Distortion

Improper shapes and proportions may appear on the screen of a television set that suffers from geometric distortion. Geometric distortion can take many forms both horizontally and vertically. In extreme cases, geometric distortion can make the flat horizon of the ocean look hilly or make faces appear elongated.

Brand name Television sets are poor in geometric (shape) accuracy -- they have a great deal of distortion.

Brand name Television sets are below average in geometric (shape) accuracy -- they have moderate distortion.

Brand name Television sets are average in geometric (shape) accuracy.

Brand name Television sets are above average in geometric (shape) accuracy -- they have little distortion.

Brand name Television sets are excellent in geometric (shape) accuracy -- they have no distortion.

Televisions: Focusing

When the electron beam that "paints" the horizontal scanning lines is sharp, the television set has good focus. Good focus helps in showing fine detail as well as in making clear distinctions between the dark and light areas of the screen. Ideally, both the edges and the center should be in good focus.

Brand name Television sets have poor focus, especially near the edges of the screen.

Brand name Television sets have below average focus -- good in the center but below average near the edges.

Brand name Television sets have average focus -- moderate sharpness on most of the screen.

Brand name Television sets have above average focus -- perfect in the center and not bad even at the edges.

Brand name Television sets have excellent focus everywhere on the screen.

Televisions: Fringe Receptions

Good fringe reception is a necessity for viewers located at any appreciable distance form the transmitter. Without good fringe reception, a television set's picture may become jittery and flecked with snow. It may fade in and out, and the auto may be plagued with unwanted interfering noises.

Brand name Television sets have poor fringe reception on both the VHF and UHF bands.

Brand name Television sets have below average fringe reception on both the VHF and UHF bands.

Brand name Television sets have average fringe reception on both the VHF and UHF bands.

Brand name Television sets have above average fringe reception on both the VHF and UHF bands.

Brand name Television sets have excellent fringe reception on both the VHF and UHF bands.

Television: Interlace

Good "interlace" refers to the even spacing of the horizontal scanning lines of a TV image. If these lines are evenly spaced, the picture's vertical detail will be good when the vertical hold control has been set. Otherwise, there will be a blurring of focus in the vertical direction.

Brand name Television sets have poor interlace and seriously distorted or blurred vertical detail.

Brand name Television sets have below average interlace and noticeably distorted or blurred vertical detail.

Brand name Television sets have average interlace and distortion in vertical detail.

Brand name Television sets have above average interlace and little distortion in vertical detail.

Brand name Television sets have excellent interlace and no distortion in vertical detail.

Televisions: Overscan

Television sets are designed to overscan, or reproduce an image somewhat larger than the screen. This is done to compensate for "shrinkage". But excessive overscan is undesirable because the viewer sees less of the actual transmitted picture. Experts feel that 10% overscan is the most desirable percentage.

Brand name Television sets are poor in overscan ability. Too much of the picture is cut off at the edges.

Brand name Television sets are below average in overscan ability. Some of the picture is cut off at the edges.

Brand name Television sets are average in overscan ability. They do a fair job of compensating for shrinkage.

Brand name Television sets are above average in overscan ability. They do a good job at compensating for shrinkage.

Brand name Television sets are excellent in overscan ability. They have the perfect amount of overscan to compensate for shrinkage.

10-Speed Bikes: Bearing Race Surfaces

In evaluating steering, pedal-crank, and wheel bearings, one finds that the precision of the "race surfaces" (the metal tracks on which the balls roll) can vary widely from brand to brand. Some are crudely stamped pieces whereas others are lathe-turned and ground to smooth finishes. The latter give much better performance.

Brand name 10-Speed Bikes have poor bearing race surfaces -- crudely stamped, giving inferior pedal, wheel, and steering action.

Brand name 10-Speed Bikes have below average bearing race surfaces -- they do not give good pedal, wheel, and steering action.

Brand name 10-Speed Bikes have average bearing race surfaces.

Brand name 10-Speed Bikes have above average bearing race surfaces -- giving fairly good pedal, wheel, and steering action.

Brand name 10-Speed Bikes have excellent bearing race surfaces -- lathe-turned to give superior pedal, wheel, and steering action.

10-Speed Bikes: Coasting Ability

Some 10-speed bikes roll or "coast" more easily and freely than others. The rolling resistance of a bike can be determined objectively by using an indoor track, about 100 feet long, set up with a ramp at the start to build up coasting speed. An electronic timer can give a precise measure of coasting ability.

Brand name 10-Speed Bikes are poor in coasting performance.

Brand name 10-Speed Bikes are below average in coasting performance.

Brand name 10-Speed Bikes are average in coasting performance.

Brand name 10-Speed Bikes are above average in coasting performance.

Brand name 10-Speed Bikes are excellent in coasting performance.

10-Speed Bikes: Frame Quality

A reliable indication of frame quality is the design of the front and rear fork ends and the way they are attached to the frame. Flimsy, stamped out fork ends crudely spot-welded to the frame are signs of a poor quality frame. Thicker, forged, brazed-on fittings can be expected to hold up much better.

Brand name 10-Speed Bikes have poor frame quality. They have flimsy, stamped out fork ends, which are not at all durable.

Brand name 10-Speed Bikes have below average frame quality. They have stamped out fork ends, which are not very durable.

Brand name 10-Speed Bikes have average frame quality.

Brand name 10-Speed Bikes have above average frame quality. They have brazed on fork ends, which are fairly durable.

Brand name 10-Speed Bikes have excellent frame quality. They have thick, brazed on fork ends, which are very durable.

10-Speed Bikes: Frame Rigidity

Pedaling ease is largely determined by the rigidity of a bike's frame. All light-weight frames will flex under the strain of hard pedaling. That flexing from side to side and up and down represents a large waste of energy over the long haul, since it doesn't help the bike to go forward.

Brand name 10-Speed Bikes are poor in frame rigidity, which makes pedaling very effortful.

Brand name 10-Speed Bikes are below average in frame rigidity, which makes pedaling somewhat effortful.

Brand name 10-Speed Bikes are average in frame rigidity.

Brand name 10-Speed Bikes are above average in frame rigidity, which makes pedaling moderately easy.

Brand name 10-Speed Bikes are excellent in frame rigidity, which makes pedaling very easy.

10-Speed Bikes: Handling

When bikes are put through various paces -- high speed slaloms, low-speed hands-off tracking tests and the like -- some just seem to be more obedient than others, demanding less of a rider's attention. These differences can be described as a quality called handling precision.

Brand name 10-Speed Bikes are poor in handling precision.

Brand name 10-Speed Bikes are below average in handling precision.

Brand name 10-Speed Bikes are average in handling precision.

Brand name 10-Speed Bikes are above average in handling precision.

Brand name 10-Speed Bikes are excellent in handling precision.

10-Speed Bikes: Saddles

Racing saddles are not meant to be sat upon, in the usual sense. They're merely supports that permit rider and machine to act in unison. Tensioned-leather saddles offer the best combination of conforming support and firmness. Tensioned-plastic saddles are apt to get sticky in warm weather and are not as desirable.

Brand name 10-Speed Bikes have poor saddles -- very low quality tensioned-plastic ones.

Brand name 10-Speed Bikes have below average saddles -- fairly low quality tensioned-plastic ones.

Brand name 10-Speed Bikes have average saddles -- fair quality tensioned-leather ones.

Brand name 10-Speed Bikes have above average saddles -- fairly high quality tensioned-leather ones.

Brand name 10-Speed Bikes have excellent saddles -- high quality tensioned-leather ones.

Appendix C: Twenty Socio-political Messages and Their Cues

"Should textbooks in public schools be free to students or paid for by students?"

Unfortunately, to save money many school systems will use, re-use, and continue to re-use texts until after they have become obsolete. It is the students who then suffer by not getting the best education. If, instead, students buy the books, the school system can switch to a superior new text as soon as it is available. (Think what textbook quality would be like at a state university if college students had to depend on the state to purchase their textbooks.)

Also, it is well known that people have special respect for the things that they own. When students buy their own books, they will not only take good care of them, but will also have greater respect for what can be learned for these books. And, owning the books, the students can continue to make use of them for several years. Therefore, a better education is possible when students in public schools pay for their own textbooks. [Pretest = 2.70, Posttest = 4.20].

Discounting Cue: A textbook salesman came to my office and said this to me. I guess he was trying to increase his sales. He states that students should pay for textbooks in the public schools. [Trust = 2.97].

Accepting Cue: This statement comes from [a government commission] on public education. The commission states that students should pay for textbooks in the public schools. [Trust = 5.86].

"Should patients be permitted to sue doctors for malpractice?"

One of the things that makes medical care very expensive is that doctors and hospitals have to protect themselves by purchasing expensive insurance. The cost of this insurance naturally raises patient fees. The true winners of the malpractice system are not doctors and patients -- but, rather, the lawyers and insurance agents. Many fine students, as well as established doctors, have left the profession because of this malpractice system.

The alternative to malpractice suits in the courts is a system of local medical review boards, made up of doctors. Patients who have complaints can receive reasonable compensation from a fund set up for this purpose, and negligent doctors can have their licenses suspended or revoked. Patients could be properly protected, and medical care could be both more effective and more reasonably priced, if malpractice suits were not permitted. [Reversed item: Pretest = 2.50, Posttest = 3.53].

Discounting Cue: I got this from the wife of a doctor who would like to see him make more money. She feels that medical malpractice suits should not be allowed. [Trust = 2.82].

Accepting Cue: I obtained this information from [a professional review organization] -- a nonprofit group investigating ways of lowering health care costs. They feel that medical malpractice suits should not be allowed. [Trust = 6.43].

"Should the U. S. continue foreign trade with countries that permit hunting or slaughter of endangered species?"

It has been suggested that we try to protect endangered species around the world by cutting off trade with countries that permit their hunting and slaughter. Of course, we want to prevent the slaughter of endangered species -- but cutting off trade is not the answer. Cutting off trade is a very hostile step that can turn a friendly country into an enemy. Also, when we use economic sanctions against a country that disagrees with our policies, it is easily interpreted as just another example of America trying to run the world. This hurts the U.S.'s position internationally. Instead, we should seek the cooperation of other countries by means of friendly diplomacy.

Sometimes, other countries have good reasons for not agreeing with our humanitarian policies. For example, a species that is endangered in the U.S. may be thriving -- even overpopulated -- in another country. We should protect endangered species, but not by the self-destructive means of cutting off foreign trade with countries that permit hunting of species we classify as endangered. [Pretest = 4.40, Posttest = 6.26].

Discounting Cue: I got it from a company that imports elephant tusks and snake and leopard skins. This company feels that the U.S. should continue trade with countries that slaughter endangered species. [Trust = 2.45].

Accepting Cue: I got it from a publication of [a non-profit federation specializing in wildlife preservation]. The federation feels that the U.S. should continue trade with countries that slaughter endangered species. [Trust = 6.67].

"Should child-proof safety caps be required on all medicine containers?"

Unfortunately, the supposed "safety" caps themselves pose a considerable hazard. Parents who have purchased containers with these caps may feel too secure, and leave medicines where they can be seen (and reached) by children. Then it turns out that, as the children play, the "child-proof" caps can be opened. Even worse, if the caps are not completely closed by the medicine-user, they are actually easier for children to open than are regular medicine caps.

Then there is the problem that the elderly, the disabled, and those suffering from arthritis, often find it difficult -- if not impossible -- to open the containers. Thus, for people who don't have small children, these gimmicky containers are not just unnecessary -- they can also be a real nuisance. Because the "child-proof" caps, when carefully used, do offer some protection against accidental use, they can be available as a choice when purchasing medicine -- but they should not be required on all medical containers. [Reversed item: Pretest = 2.87, Posttest = 5.66].

Discounting Cue: A friend of mine told me this. I think she read it in [an unreliable tabloid]. The article stated that child-proof safety caps should not be required on all medicine. [Trust = 3.67].

Accepting Cue: A friend of mine told me this. She is a member of [an organization to protect children]. They state that child-proof safety caps should not be required on all medicine. [Trust = 5.67].

"Should public water supplies be fluoridated?"

Fluorides constitute an impurity in public water supplies. This makes the water useless for many purposes. When commercial users have to remove the fluorides, the cost is passed on to consumers -- the same people who, as taxpayers, first paid for putting the fluorides in. Of even more concern is the legal precedent established by fluoridation. What is to stop legislators from deciding that other "healthful" chemical agents (perhaps tranquilizers) should be added to our drinking water?

Fluorides prevent tooth decay in children. However, with fluorides in the drinking water, everyone has to drink fluorides for their whole lives. Medical research has not yet had time to determine whether prolonged drinking of fluorides is harmful. Remember that it took 60 or 70 years after cigarettes first became popular for us to discover that they damaged hearts and lungs, and caused cancer. Since fluorides are readily available in toothpaste, we can and should avoid the expense, as well as the unknown risk, of putting fluorides in our drinking water supplies. [Reversed item: Pretest = 3.00, Posttest = 4.50].

Discounting Cue: These facts come from "Health and Karma" -- a magazine devoted to destroying worldly influences in western society. They think that public water supplies should not be fluoridated. [Trust = 2.50].

Accepting Cue: These facts come from [a group of dentists]. They think that public water supplies should not be flouridated. [Trust = 6.83].

"Should the U. S. Postal Service be government-supported?"

The main benefit that we get from a taxpayer-supported postal service is the delivery of junk mail in almost unlimited amounts. Tax dollars make it possible for the postal service to serve as a ridiculously cheap advertising service not only for profit-making businesses, but also for almost any odd-ball enterprise. Another consequence of taxpayer support is to allow the postal service to preserve inefficient management practices that produce less service at greater cost.

Taxpayers' money should go to programs -- such as public education -- that are not only in the public interest, but also cannot possibly support themselves. There are many essential services, notably the telephone and power utilities, that work effectively without government support. The postal service, also, should be able to do its job while showing a profit or, at least, breaking even -- in other words, without government and taxpayer support. [Reversed item: Pretest = 3.40, Posttest = 4.73].

Discounting Cue: A couple of us were discussing this at a cocktail party. You know how it is after a few drinks. We think the postal service should be self-sufficient. [Trust = 2.97].

Accepting Cue: This is what a professor of economics stated on the news last night. He thinks the postal service should be self-sufficient. [Trust = 5.57].

"Should sale of products in aerosol spray containers be permitted?"

The main complaint against aerosol sprays has to do with their use of the chemical propellant, freon. Freon is, indeed, a dangerous material. Researchers have shown that the freon released by spray cans is gradually removing ozone from our atmosphere. Ozone acts as a natural filter against solar radiation. The ozone depletion that has already occurred is, tragically, enough to increase skin cancer in human populations by 10%.

Freon-propelled sprays also have other hazards. For example, children can accidentally spray dangerous products, such as an oven cleaner containing lye, into their own or others' faces. Also, as mentioned on the spray cans' labels, an aerosol container can explode from just sitting in the sun. Although aerosol cans are convenient, almost all aerosol products can be packaged in other convenient forms, such as stick, roll-on, powder, or pump spray. For these reasons, sales of products in aerosol spray containers should not be permitted. [Reversed item: Pretest = 5.97, Posttest = 6.77].

Discounting Cue: These facts are from a speech given by a member of "people against progress" -- an organization that recently set off a bomb in American chemical plant. They feel that the sale of aerosol sprays should be prohibited. [Trust = 3.15].

Accepting Cue: These facts are from a speech given by a professor on the results of some studies he has conducted. He thinks that the sale of aerosol sprays should be prohibited. [Trust = 7.05].

"Should all violence be removed from children's TV programming?"

Although much has been made of TV violence, there has been little attention to the possible benefits of exposure to aggression on TV. For example, when the violent aggressor is punished, children learn that violence does not pay. This actually reduces their own likelihood of being aggressive. Another case in which exposure to aggression can be beneficial is when it occurs in fantasy (such as a cartoon). According to Freud's theory, viewing fantasy aggression actually reduces aggression -- a process he called "catharsis."

Importantly, children must learn to recognize and deal with the reality of violence. TV can be very valuable in providing children with examples of morally strong people reacting effectively (and nonaggressively) to violence. Regrettably, we can't pretend that violence doesn't exist. We can help to deal with violence, however, by letting children encounter violence on TV in ways that both indicate its wrongness and show how to deal with it. [Reversed item: Pretest = 4.80, Posttest = 6.21].

Discounting Cue: I wrote to [one of the television networks] after watching one of their more violent episodes. I was worried about the effects of TV violence on my children. This is the information they sent me. They claim that children should be exposed to TV violence. [Trust = 3.82].

Accepting Cue: I wrote to [an authority on behavioral matters] after watching a violent show on TV. I was worried about the effects of TV violence on my child. This is the information they sent me. They recommend that child be exposed to violence on TV. [Trust = 6.52].

"Should catalytic converters be required on new automobiles?"

Catalytic converters are not presently required on new automobiles, but have been suggested as a way to reduce pollution. Although catalytic converters can reduce pollution some in the short run, they also lower engine efficiency and reduce gas mileage by as much as 20%. This excessive energy use means that catalytic converters are simply too wasteful. Also, because of their very hot operating temperatures, catalytic converters pose a severe safety hazard -- they increase the risk of fire and explosion when a crash occurs.

Catalytic converters are expected to increase the average cost of a new car by about 75 dollars. This price increase will hurt an already troubled auto industry, and put new automobiles even further out of the reach of America's low and low-middle income families. The auto industry needs inexpensive and safe pollution-control devices. If the industry is required to use catalytic converters, the development of a better device will likely be delayed by 10 years or more. Catalytic converters should not be required equipment on new automobiles. [Reversed item: Pretest = 3.73, Posttest = 5.60].

Discounting Cue: I got my information from a newsletter sent out by [a major car manufacturer] who stands to lose profits if catalytic converters are required. [This manufacturer] believes cars should not be equipped with catalytic converters. [Trust = 3.75].

Accepting Cue: I got my information from a study done by the [a government agency]. [This agency] believes that cars should not be equipped with catalytic converters. [Trust = 6.95].

"Should coal be used as a primary source of energy?"

The use of coal as a primary source of energy will have adverse effects on the environment. Coal is neither as clean burning nor as efficient as other energy sources. The burning of coal contributes to acid rain, in addition to the pollution of air with carbon monoxide and sulfur dioxide. Also, because coal is obtained chiefly by strip mining, the extraction of coal from the earth destroys large areas of land. Strip mining causes soil erosion and flooding, besides leaving behind an ugly, desecrated land surface.

Because coal is a fossil fuel, it is in limited supply, and that supply will be exhausted before long. The cost of coal will rise steadily as it gets harder to find. When the cost of coal finally becomes too expensive, industrial energy systems will have to be reconstructed, at great cost, in order to use other fuels. Therefore, it is wise to proceed immediately with the development of alternative, nonfossil, renewable fuel sources. We should not rely on coal as a primary source of energy. [Reversed item: Pretest = 5.46, Posttest = 6.23].

Discounting Cue: This information comes from an organization which is promoting the building of nuclear power plants. They state that coal should not be a primary source of energy. [Trust = 4.05].

Accepting Cue: This information comes from a federal agency charged with the task of evaluating methods of meeting our future energy needs. They state that coal should not be a primary source of energy. [Trust = 7.14].

"Should mathematics be a required subject in college?"

Math can be very frustrating. Occasionally, an otherwise strong student is disillusioned and drops out of college, just because of difficulty with a required math course. Even students who don't drop out can be hurt. Consider the students whose grade averages suffer both because they get a low math grade and because the excessive time they devote to math hurts their grades in other subjects. Their lower grade average can lead to failure in competition for jobs or graduate programs for which they are otherwise well qualified.

The math that most adults need (to balance a checkbook or to make sensible purchasing decisions) is learned by high school. Many claim that math courses teach "formal" thinking. However, this supposed benefit has never been documented. Remember, it was once believed that it was good "discipline" for everyone to learn Latin. The requirement of math in college programs should go the way of those Latin requirements. Math should be for those who want and can use it, but it doesn't have to be required for everyone. [Reversed item: Pretest = 2.50, Posttest = 3.86].

Discounting Cue: This is what I was told by the TA of my college English course. He is upset at getting paid less than math TAs. He believes that math should not be a required subject in college. [Trust = 2.37].

Accepting Cue: This is what I was told by the professor of my college math course. He has been studying the teaching of math for the last 10 years. He believes that math should not be a required subject in college. [Trust = 6.00].

"Should Puerto Rico be made one of the United States?"

Although it is not generally known, since 1917 Puerto Rico has had all privileges of U.S. statehood, except the right of its citizens to vote in U.S. federal elections. Puerto Rico presently has (a) a constitution based on the U.S. Constitution, (b) a legislature with Senate and House of Representatives, and (c) an elected commissioner who represents Puerto Rico in Washington. In all respects -- political, economic, social, and even in actual distance -- Puerto Rico's relation to the U.S. is far closer than was that of Hawaii when Hawaii was admitted to statehood.

Statehood would bring benefits mutually to the mainland U.S. and Puerto Rico. For example, admission to statehood would hasten the technical development needed to convert Puerto Rico's vast undeveloped farm land into crops that can be sold abroad. The result would be not only an improvement in the standard of living in Puerto Rico, but also a general boost to the U.S. economy, and a reduction in the U.S.'s international trade deficit. Puerto Rico should become a state. [Pretest = 3.73, Posttest = 5.20].

Discounting Cue: This information comes from a conversation between two persons with Spanish accents that I overheard in a public restroom. They were pretty angry about all the red tape they had to go through to be in America. They believe that Puerto Rico should become a state of the Union. [Trust = 3.12].

Accepting Cue: This information comes from an article in the [a major American newspaper]. The reporter interviewed the people of Puerto Rico and key U.S. business leaders to find out what they thought was best. They believe that Puerto Rico should become a state of the Union. [Trust = 5.52].

"Should universities maintain large athletic scholarship award programs?"

Although it is often suggested that athletic scholarship programs are costly to a university, in fact money for athletic scholarships typically comes only from athletic-event revenues. The athletic programs thus create revenues that permit a college education for students who otherwise could not afford one. There have, of course, been occasional abuses that have attracted public attention. However, the great majority of athletic awards go to qualified students who successfully complete college degrees and go on to productive careers.

Athletic scholarship award programs contribute directly to the excellence of college athletic teams. This excellence provides a model of what can be accomplished with practice and teamwork -- a model that inspires many in their nonathletic endeavors. Also, faculty, staff, students, and members of the university community all take pride in university teams, providing an important focus for involvement and cooperation in the university community. Athletic scholarship programs should be maintained. [Pretest = 5.30, Posttest = 5.92].

Discounting Cue: I overheard this in a locker room after a game. The athletes were angry about not being able to receive cars from pro teams while in college. They feel that athletic scholarships should be maintained. [Trust = 3.10].

Accepting Cue: This come from a position statement of [a parents and teachers organization]. They acknowledge the importance of sports and feel that athletic scholarships should be maintained. [Trust = 6.81].

"Should phosphate-containing detergents be permitted for household use?"

In ordinary household use, phosphate detergents are insignificant as a source of environmental pollution. It is the phosphates used in heavy industry and agriculture that are significant as sources of pollution. Very possibly, the publicity against phosphates for home use is part of industry's campaign to focus guilt on consumers -- at the same time, diverting attention from their own massive polluting activities.

More importantly, there are no good alternatives to phosphates for home use. Phosphate detergents are considerably less expensive and far superior in cleaning ability to those lacking phosphates. Phosphate detergents allow most clothes to be cleaned less often and, thus, the clothes can last longer. Finally, and almost unnoticed in this debate, is the fact that non-phosphate detergents often contain E.D.T.A. as a chemical additive. E.D.T.A. has not yet been studied thoroughly, but is potentially a damaging pollutant. It is wisest to continue to permit phosphates in home detergents until we have something better to replace them. [Pretest = 4.16, Posttest = 5.72].

Discounting Cue: [A major soap company] sent me a pamphlet containing this information when I asked them why the value of my stock in their soap company had declined. They feel strongly that people should use detergents containing phosphates. [Trust = 3.93].

Accepting Cue: [A government agency] sent me a pamphlet containing this information. They feel strongly that people should use detergents containing phosphates. [Trust = 6.67].

"Should consumers boycott cereals containing chemical additives?"

Some think that adding anything at all to grain products is bad for one's health. However, the ingredients that are typically added to popular cereal grains serve two important purposes. One is simply to preserve the cereal. Two ingredients, BHT and BHA, are added to many popular cereals to keep them fresh during storage on the way to market or at home. There is no evidence that these ingredients are harmful. If their use was stopped, cereals would often spoil on the shelf. Cereals would have to be sold in smaller packages and purchased more frequently, increasing their cost while decreasing their convenience.

The second important purpose of added ingredients is nutritional. Added ingredients can enable a single serving of cereal to provide 100% of the daily requirement of 8 or more vitamins. To boycott these cereals because they are not "natural" is unreasonable. They are more nutritious than many "natural" cereals. The added ingredients assure that the consumer gets both economic and nutritional value from cereal purchases. Cereals with added ingredients should not be boycotted. [Reversed item: Pretest = 6.03, Posttest = 7.03].

Discounting Cue: This is the gist of a letter I got from [a major cereal manufacturer] when I wrote them about this topic. [This manufacturer] could lose a lot of profits and thus thinks that consumers should not boycott cereals containing additives. [Trust = 4.65].

Accepting Cue: This is the gist of an article found in [a consumer advocacy magazine] -- a magazine that promotes the welfare of consumers. They think that consumers should not boycott cereals containing additives. [Trust = 7.71].

"Should states institute yearly auto inspections?"

We all chuckle at an old clunker heading down the highway. But what about the risk this vehicle imposes on us all? Broken taillights, headlights, and turn signals are a prime cause of rear end collisions. Worn tires and faulty brakes prevent stopping in time to avoid crashes and injuries. Annual inspection of automobiles has solved these problems in many states. In states that have yearly auto inspection -- such as Pennsylvania, Texas, and Virginia -- lower accident rates mean not only fewer injuries, but also lower insurance costs.

In addition to improved safety, routine inspections help to reduce air and noise pollution. Cars with faulty emissions devices, dangling mufflers, or worn out tail pipes are promptly spotted and repaired. Some have argued that yearly car inspections are troublesome. But, against the minor bother of one inspection a year, think of the comfort of knowing that your car and others on the road are in safe working order, and think of the real trouble that comes with an accident that could have been avoided. We should all have these benefits of yearly car inspections. [Note: In our research, this message argues that Ohio adopt inspections. Ohio is a non-inspection state and the cite of our research. Pretest = 5.25, Posttest = 6.76].

Discounting Cue: This information comes from an organization of auto mechanics who would like the extra business this new law would bring. They feel that states should have yearly car inspections. [Trust = 4.10].

Accepting Cue: This information is based on a national highway association report on how to reduce fatal accidents. The report advocates that states should have yearly car inspections. [Trust = 8.04].

"Should people brush their teeth after each meal?"

Dental authorities have pointed out that the benefits of frequent toothbrushing are often overstated. Some of the lowest tooth decay rates in the world are found in societies where toothbrushing is unknown. Researchers have found that a well-balanced diet is far better than toothbrushing for preventing tooth decay. Finally, biochemical studies have shown that most tooth decay occurs during the meal while the food is still in the mouth. This decay can best he prevented by having strong and healthy teeth, not by toothbrushing.

Many people brush their teeth automatically after each meal, even though the dangers of overbrushing are by now well known. Too-frequent brushing pushes back the gums, exposing the non-enameled (and very vulnerable) parts of the teeth to decay. Even the enamel part of the tooth is damageable by frequent brushing -- the cleaning abrasives in most toothpastes tend to wear down and pit the enamel, presenting extra sites for occurrence of tooth decay. Brushing teeth after each meal is not a recommended practice. [Reversed item: Pretest = 1.70, Posttest = 3.85].

Discounting Cue: This comes from "Doctor" Happy Health -- a nature therapist. He is against all types of "unnatural" treatments. He believes that people should not brush after every meal. [Trust = 3.32].

Accepting Cue: This is based on a report in [a prestigious journal of medicine]. The report concludes that people should not brush after every meal. [Trust = 7.38].

"Should the four-day work week be adopted?"

The 4-day work week, with 10 working hours per day has been suggested as the work week of the future. However, in studies that have been done to test the 4 X 10 week, workers have found it to be a source of problems, not solutions. The physical demand of working 25% more each day has increased fatigue, caused loss of sleep, and produced job dissatisfaction. Social and recreational patterns are often seriously disturbed. Workers report that the extra day is often spent in meaningless activity, and evenings after workdays are unsatisfying due to fatigue and a late arrival home.

Company managers have also recognized problems with the 4 X 10 week. The expected advantages, such as decreased absenteeism and increased productivity, have simply not materialized. Absenteeism can, in fact, be an increased problem because each missed day constitutes 25% of the work week, as opposed to 20% under the standard (5 X 8) plan. The 10-hour work day may mean greater use of plant equipment, but it produces problems for workers. We should not adopt the 4-day work week. [Reversed item: Pretest = 5.03, Posttest = 6.26].

Discounting Cue: This information comes from a study conducted by the management of a large company. They do not want to see the 4-day work week because it would give the workers too much freedom. The report concludes that the 4-day work week produces major problems for workers. [Trust = 4.90].

Accepting Cue: This information comes from a study that appeared in the scholarly journal Current Personnel Practices. Their information is based on a survey of over 3000 workers on the 4-day plan. The report concludes that the 4-day work week produces major problems for workers. [Trust = 7.95].

"Is advertising good for society?"

Advertising helps consumers by providing needed information -- such as knowledge about new products, information about where and how to obtain needed goods, and announcements of special bargains such as discounts, rebates, and sales. Important information also comes from noncommercial (public service) advertising. People can learn about chances to help others through charitable agencies, or about such things as how to stop smoking or how to escape from a burning house.

Advertising also helps to keep prices low, by making it possible for new businesses to compete against established firms. For example, when it became possible for lawyers, pharmacists, doctors and other professionals to advertise, the increased competition led to lower prices. Without the use of advertising to inform the public, it would be impossible for many new products to be sold in enough quantity to justify the producer's investment in large-scale production equipment. Quite the opposite of being an "evil of capitalism," advertising is important in making a competitive economy work to the mutual advantage of consumers and producers. [Pretest = 6.13, Posttest = 6.96].

Discounting Cue: This information comes from [an advertising magazine] -- a magazine devoted to promoting the use of advertising for personal profit. They obviously feel that advertising promotes the social good. [Trust = 4.70].

Accepting Cue: This information comes from a recent government survey of top economists and sociologists. A large percentage feel that advertising promotes the social good. [Trust = 7.24].

"Do people need an average of as much as 8 hours of sleep per day?"

Although it sounds unconventional, research is now finding that people need less than 8 hours sleep per day. Restfulness depends on how much "REM" (rapid eye movement) sleep is obtained -- not on the total hours of sleep. People who obtain a lot of REM sleep feel more rested and outperform their lower-REM counterparts. Since REM sleep occupies only a small portion of nightly sleep, total sleep time can be reduced. In one study, students trained to obtain more REM sleep cut their sleep time by as much as 4 hours with no harmful effects.

The advantages of sleeping less are readily apparent. People who regularly sleep 8 or more hours often report feeling sluggish while those trained in REM sleep (and sleeping about 6 hours a day) report feeling refreshed. By sleeping less, we can gain 1, 2, or more hours each day that can be spent in work, hobbies, enrichment, or with friends. Changing from an 8-hour to a 6-hour average is the same as gaining one full year of life every eight years! People can safely and effectively sleep less than an average of 8 hours a day. [Reversed item: Pretest = 4.76, Posttest = 5.84].

Discounting Cue: This material comes from a high school project my daughter worked on. She was assigned this topic by her teacher and this is what she made up about it. She thinks that people require less than 8 hours of sleep per night. [Trust = 3.30].

Accepting Cue: This material comes from an address delivered by a physiological psychologist who has been doing research on sleep for years, has published numerous journal articles and a book on sleep. She feels that people require less than 8 hours of sleep per night. [Trust = 7.76].

END

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